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To : Commissioner Philip Giudice
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From : Stephen H. Kaiser, PhD

Proposed Regulatory Revisions to 225 CMR 14 and Introduction of New Regulations 225 CMR 15 and 16

I attended the February 5 public hearing at 100 Cambridge Street and testified to the effect that these regulations contained sufficient problems of legal propriety and consistency that they should be withdrawn and rewritten. In these written comments, I shall elaborate on the reasons for my concern and conclusions.

The public hearing attracted a considerable turnout. By my estimate, close to 90% of the attendees appeared to be people in the energy industry seeking to obtain monetary benefits from passage of the DOER regulations for renewable energy. Such a situation is quite contrary to conditions I recall during the first energy crises of 1973 and 1979, when there was a wave of citizen activism and Federal government leadership in the direction of seeking energy conservation and identifying alternate energy sources that qualified as appropriate technology. In our immediate post-Enron political environment, there is a distressing emphasis on large scale "renewable" operations, large scale profits, and a virtual total lack of concern for energy efficiency and conservation.

At the February 5 hearing, I had no sense that any regulator or industry advocate was aware of Article 7 of the Bill of Rights of the state Constitution :

> "Government is instituted for the Common good; for the protection, safety, prosperity and happiness of the people; and not for the profit, honor, or private interest of any one man, family or class of men; ..."

In these words, John Adams defined the role of government in a way to avoid the abuses and misapplications of government during the 18th century, and his situation then may not have been that much different from present times. With a hearing room full of private parties seeking to obtain profitable benefits from the actions of the current Administration, the state Energy Office should exercise great caution in seeing that its actions are in full compliance with the state Constitution, its laws and existing regulations.

The Energy Office should not be judged to be alone in this approach to commercial activity. I attended a press conference at the Genzyme building in Cambridge in March 2007, and heard the Governor explain his goals of changing the state to "Move at the speed of business." The Department of Energy Resources appears to be conceptually following this guidance, but there is good reason to fear that the legal/Constitutional issues have not been appreciated by our government leaders. It is crucial that the Administration's approach should be modified to be in compliance with law.

The issue of renewable requires an understanding of what are renewable fuels, what is meant by "low emission" or "low polluting" fuels, and how standards of efficiency and proper scale should be applied to regulatory decisions and the types of renewable facilities that would be in the public interest. All of these decisions require close coordination with the Department of Environmental Protection, especially for energy activities which generate air pollution or propose the use of cooling water for waste heat dissipation.

On February 5 I testified as to the discrepancies between the proposed provisions of 225 CMR 14 and 15 with the DEP air pollution regulations 310 CMR 7.32. DEP defines biomass to be an <u>alternative energy source, not a renewable source</u> :

> "Renewable Energy means energy generated by one or more of the following fuels, energy resources or technologies, and that does not emit NOx: solar photovoltaic or solar thermal energy; wind energy; fuel cells that do not employ a fuel processor that emits NOx; ocean thermal, wave or tidal energy; hydro and geothermal energy. Energy generated from nuclear fuel, biomass, landfill gas, fuel cells that employ a fuel processor that emits NOx, and hydro using pumped storage are not renewable energy under 310 CMR 7.32."

By this definition, biomass is not a renewable fuel source and cannot be included as part of the RFS regulatory provisions. The Department should conclude that the inclusion of biomass

under sections 225 CMR 14.02, 14.05(1)(a)(7), 14.05(3)(b) and (c), 14.06(4), 15.02, 15.05(1)(a)(8), 15.05(2)(b) is in direct contradiction to DEP regulations and that all references to biomass should be stricken from the proposed regulations, with other sections renumbered accordingly.

DEP air pollution regulations do allow for the participation of biomass projects in the Carbon Dioxide trading program, according to 310 CMR 7.70. Section 7.70(1)(b) includes the definition for Eligible Biomass to include

> "sustainably harvested woody and herbaceous fuel sources that are available on a renewable or recurring basis (excluding old-growth timber), including dedicated energy crops and trees, agricultural food and feed crop residues, aquatic plants, unadulterated wood and wood residues, animal wastes, other clean organic wastes not mixed with other solid wastes, and biogas derived from such fuel sources. Liquid biofuels do not qualify as eligible biomass. Sustainably harvested shall be determined by the Department."

For the Carbon Dioxide trading program, the definition and applicability of what is "sustainable" is made by the Department of Environmental Protection, not the Department of Energy Resources. Neither DEP nor DOER defines in their regulations what is meant by "sustainable" – a highly elusive concept in dealing with environment and energy policy.

Nowhere in 225 CMR 14, 15 or 16 could I find a definition of "sustainable." Does this lack of inclusion represent a proper recognition by DOER that the definition of what is environmentally sustainable lies with DEP? Any effort by DER to determine what is a "clean fuel" or is a "low emission" fuel could similarly run afoul of DEP regulations.

DOER has chosen to avoid any definition of what constitutes "low emission" biomass fuels by issuance of "Guidelines" to provide the necessary definitions. Unfortunately, this action should properly have been taken within the regulations themselves. I am aware that the Department has justified its actions by citing the need for regular updating due to changing technologies, but this philosophy could easily be extended to translating regulations into "Guidelines" at an increasing rate, without public hearings or legal protections or enforcement capability, The entire concept of using "Guidelines" in this manner is completely inappropriate and contrary to law. The SJC decision of February 2007 in the case of Moot vs. DEP should have been an instructive lesson to all state agencies that they cannot sacrifice public rights without explicit authorization by the Legislature, and the replacement of regulatory protections by the substitution of "Guidelines" is a prime example of such illegal action. It should not be necessary to appeal these regulations to the SJC in order to obtain affirmation of the legal concepts in this regulatory determination.

I urge that the General Counsels of DOER and DEP confer on this matter, and also include the good offices of the General Counsel of the Executive Office of Energy and Environmental Affairs should be involved in this review, to assure that DEP and DER regulations are consistent, appropriate and legal.

If DOER ultimately considers biomass as an alternate fuel, I hope that the Department will consider both the scale of proposed biomass plants and their possible provision for open and exposed wood fuel piles. Such storage methods allow the fuels to be exposed to the weather, and to the effects of rain, snow and ice. It is common knowledge that wet wood will smoke badly when burned and combustion efficiencies will markedly decline.

The Mechanical Engineer's Handbook describes how the effect of moisture in the wood can reduce the efficiency of combustion, because many pyrolytic fuel elements inherent in wood require high temperatures to burn properly, and instead these energy elements will simply be exhausted up the stack as unburned hydrocarbons. Such emissions constitute both increased air pollution and a waste of fuel source. High moisture content usually results in efficiency losses due to the need to evaporate the water into vapor and force it up the exhaust stack. These practical consequences of wood combustion would appear to explain why biomass plants have generating efficiencies of 25 percent or less.

DOER regulations relating to biomass must take into account design defects which result in such poor combustion and high pollution. Any regulation that gives blanket recognition to biomass plants without consideration of design defects is contrary to the public interest.

Current practices on both private woodlots and state forests & parks indicate that clearcutting (including the euphemistic “shelterwood” cuts) are becoming all too commonplace. The damage to the land, including wetlands, by industrial logging is a serious issue and a matter of great controversy among foresters. Even age cutting does not result in the replication of healthy forests and can produce either a temporary or a permanent disruption in the fauna and flora of the forest system.

For this reason, DOER should consult with the Department of Conservation and Recreation to assess the necessary protections for good forest management, with regulations to protect against the unwise pursuit of profit without regard for the land. Such concerns are even greater on public forest and park lands where short term gains for political purposes may take precedence over long-term stewardship of the land, with implications for both private and public woodlots. The cost analysis for the Russell biomass plant indicates that the private woodlot owner would receive only one dollar per ton for the wood harvested. Such economics make it very difficult to imagine that many private owners would wish to participate in such a program.

If private landowners have the economic incentive not to participate in the Russell Biomass plan, public agencies (especially under the influence of well funded industry lobbies) may be pressured to provide the market, even at a loss to the taxpayer. The mechanism could be a request to loggers to "please take all this wood off our hands" – an arrangement which historically is not unheard of in state energy policies. Unfortunately, state MEPA review does not include useful thresholds to control against potential clearcutting and equivalent "shelterwood" harvests in state forests and parks.

Nevertheless, there is the opportunity by the initiative of the Secretary or private parties and citizens to seek MEPA review of any proposal, including regulatory changes. I would recommend, with respect to at least the subject of biomass fuels, that the Department of Energy Resources take the initiative to seek environmental review of biomass impacts under the MEPA provisions of Chapter 30 Section 62, and thereby enhance the compliance with Chapter 30 Section 61.

Sincerely,

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